II. Claims

1-16 Cancelled

17. (New) A method of increasing the adherence of non-hardenable coating materials on ferrous materials comprising contacting the ferrous material with an aqueous mixture of the non-hardenable coating materials and a material which hardens in the presence of water thereby forming a coating film on the ferrous material surface.

18. (New) The method of claim 1, wherein the material used to harden the coating film is selected from the group consisting of Portland cements, pozzolanic cements, aluminous cements and mixtures thereof.

19. (New) The method of claim 2 wherein the cements have particle size distribution between 0.01 micrometer and 100 micrometers.

20. (New) The method of claim 2 wherein the weight ratio of cement to ferrous material is between 1 to 40 and 1 to 5.

21. (New) The method of claim 1, wherein the non-hardenable material used to coat the ferrous material surface is selected from the group consisting of bentonite clays, bauxite, aluminum containing clay and mixtures thereof.

22. (New) The method of claim 21 wherein the non-hardenable material has particle size distribution between 0.01micrometer and 500 micrometers.

23. (New) The method of claim 21 wherein the non-hardenable material has particle size distribution between 0.05 micrometer and 100 micrometers.

24. (New) The method of claim 21 wherein the non-hardenable material ranges from 0.01% by weight to approximately 2% by weight in relation to the dry weight of the ferrous material to be coated.

25. (New) The method of claim 1, wherein the ferrous material is pellet, briquette, sized or fine ore.

26. (New) The method of claim 1, wherein the sum of hardenable plus non-hardenable material in the water dispersion ranges from 1 to 80% by weight of the dispersion.

27. (New) The method of claim1, wherein the contacting is by means of dipping, spraying or sprinkling.

28. (New) The method of claim 1, wherein the coat film hardening is achieved by the cure reaction of cement in air.

29. (New) In a method of reducing the formation of agglomerates of ferrous materials during reduction of such materials by coating the ferrous materials with an aqueous dispersion of a non-hardenable coating, the improvement comprising concurrently coating the ferrous material with a material which hardens in the presence of water.

30. (New) A coated ferrous material with significantly lower agglomeration formation during reduction produced by the process of claim 1.

31. (New) A coated ferrous material with low agglomeration formation during reduction as compared to uncoated ferrous material where the coating comprises a mixture of a non-hardenable coating material and a hardened coating material.

32. (New) The ferrous material of claim 31 where the non-hardenable coating material is selected from the group consisting of bentonite clays, bauxite, aluminum containing clay and mixtures thereof and a hardened coating material is selected from the group consisting of Portland cements, pozzolanic cements, aluminous cements and mixtures thereof.

33. (New) The ferrous material of claim 31 where the non-hardenable coating material is selected from the group consisting of bentonite clays, bauxite, aluminum containing clay and mixtures thereof and a hardened coating material is selected from the group consisting of Portland cements, pozzolanic cements, aluminous cements and mixtures thereof.